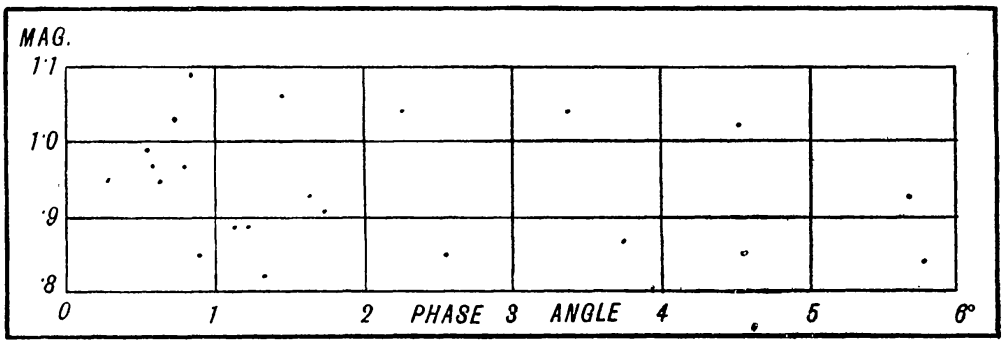
To find if the observations show any variation of the brightness of the spheroid of Saturn with the phase angle, the observations have been further reduced by applying the reduction to "ring invisible" given by Seeliger in *Ast. Nach.** The reductions and the reduced values are given in the last two columns of the table. These reduced values are plotted against phase angle in the



accompanying diagram, and from this it appears that the alteration in brightness of the spheroid with phase angle, if any, must be very slight, and many more observations would be necessary to determine its magnitude.

Observatory, Melbourne :
1909 *January* 20.

Note on the remarkable Meteor of 1909 *February* 22, 7^h 30^m.

By W. F. Denning.

A meteor of very exceptional character presented itself in the sky on Monday, February 22 last, passing in a nearly E. to W. direction above the English Channel, with a long flight, performed at moderate velocity and height. It was observed as far north as Nottingham, as far east as Colchester; and reports have come to hand from Plymouth, from places in South Wales, from the Channel Islands, and from Cherbourg, Brest, and other stations in the north of France.

The meteor was a fine one, of a blue colour, and it gave a succession of bright outbursts during the latter portion of its flight. At the end, its westerly direction appears to have been suddenly checked, and it turned earthwards, its incandescent material apparently spreading out and falling several degrees in a zigzag or wavy course.

The reddish train of sparks which flowed from the nucleus of the meteor quickly died away, but there immediately came out along the course a vivid streak of phosphorescence, which

* "Über die Helligkeit des Saturn bei verschwundenem Ring," H. Seeliger, *A.N.*, 4263, clxxviii. 250, 1908.

intensified and lengthened, and at once began to drift in a direction to the N.W.* Many observers estimated the length of the streak as between 100° and 120° between 8 and 8.30, but this does not include the curious bends at its extremities. At several places the silvery beam or ribbon of light evolved from the meteor was watched for 2 hours: at Plymouth it was distinctly visible for $2\frac{1}{2}$ hours, and another observer 4 miles off Start Point, on the S. Devon coast, followed it for 3 hours. As seen from the south of England, it passed from the stars of Canis Minor and Major, Monoceros and Orion, to Ursa Minor, Cepheus, Cassiopeia, and the constellations lying S.W. It widened from about $\frac{1}{4}$° to 2° or 3° at last.

The streak was so bright and so extensive that it attracted the earnest attention of thousands of persons who did not see the flight of the meteor at all. This flight was directed from a point in Coma Berenices (190° + 20°) lying low down over the E.N.E. horizon at the time. There is a pretty well-known radiant here in the spring months, and it is composed of slow, trained meteors. A large number of observations have been received both of the fireball of February 22 and its long-enduring streak, and it is hoped to give more definite particulars concerning the main features of the phenomenon in a subsequent paper.

Bishopston, Bristol:
1909 *March* 11.

Comparison of Ancient Eclipses of the Sun with Modern Elements of the Moon's Motion. By Simon Newcomb.

The passages in the writings of ancient authors supposed to refer to total eclipses of the Sun have been so fully discussed during the last few years, especially by Cowell and Nevill in the *Monthly Notices*, and quite recently by Mr. Fotheringham, that the subject is fairly well thrashed out so far as the question of interpretation is concerned. Most of the supposed eclipses on which stress was laid by Airy, Hansen, and other older authorities, in testing the lunar tables, have been nearly eliminated from consideration by doubts and inconsistencies of various kinds. The only one of these I need mention is the eclipse of Thales. The questions associated with this eclipse may now be considered as well cleared up. From the corrections which I have applied to the lunar elements, it would appear that the Sun set upon the combatants only a short time, perhaps fifteen minutes, before the total phase commenced. Thus the accuracy of the phraseology used by Herodotus, and in-

* For an hour or more after its first projection the beam or streak was brighter than any part of the Milky Way, and its shape varied under the action of wind currents at different altitudes. One observer at Lymington describes the streak as like "a brushful of starlight from the Milky Way drawn across the sky."